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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/045,364	11/07/2001	Donald T. Green	PII 3341	1701

7590 07/23/2003

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EXAMINER

MCCALL, ERIC SCOTT

ART UNIT

PAPER NUMBER

2855

DATE MAILED: 07/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/045,364

Applicant(s)

GREEN ET AL.

Examiner

Eric S. McCall

Art Unit

2855

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 7-11, 13-15 and 17 is/are rejected.
- 7) ☒ Claim(s) 4, 6, 12 and 16 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 May 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

1/2

GE ENHANCEMENT

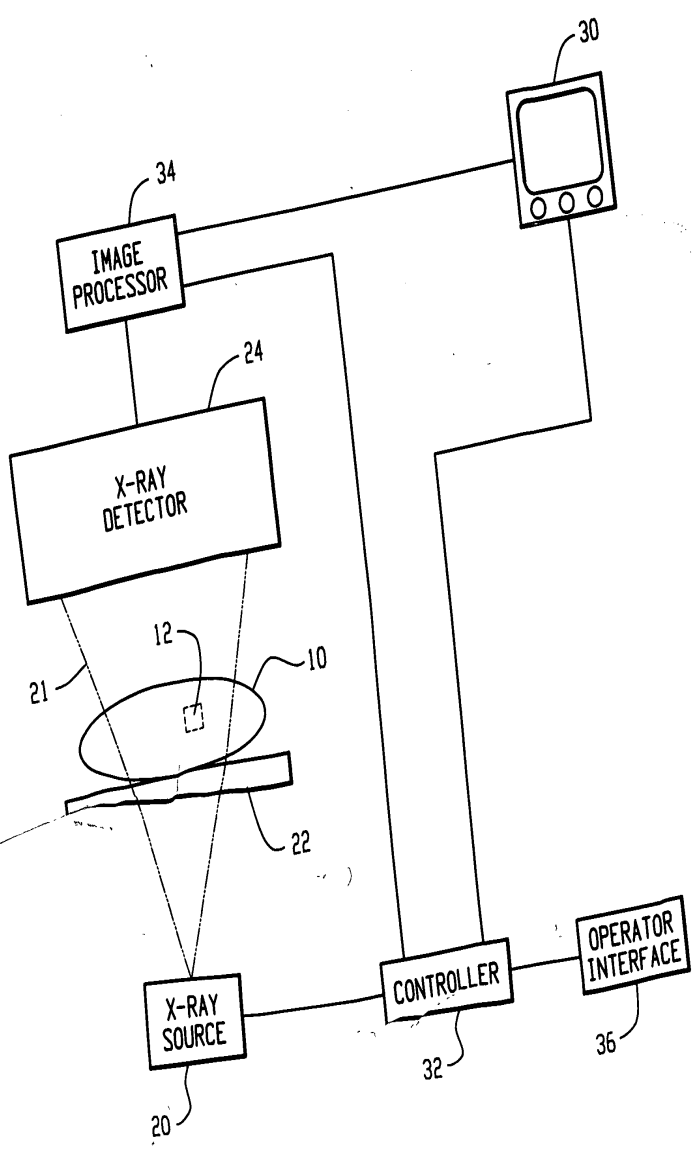


Fig. 1

DRAWINGS

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the reference sign “28” which is mentioned in the description.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

CLAIMS

35 U.S.C. § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 5, 7-11, 13-15, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Granfors et al. (5,574,764).

With regards to claim 1, Granfors et al., as disclosed by the Applicant as admitted prior art, teach a fluoroscopic imaging apparatus (col. 1, lines 12-15) comprising:

an x-ray source for projecting x-rays through a subject, the x-ray source having a voltage and a current associated therewith (col. 1, lines 26-30);

an x-ray detector for detecting radiation which has passed through the subject (col. 1, lines 61-63);

a monitor ("imaging system") for displaying an image indicative of the detected radiation, the image defining a field of view;

an operator interface for selecting a region of interest within the field of view (col. 2, line 4); and

enhancement means for enhancing, in response to image data within the region of interest, a subsequent image of the region of interest (col. 2, lines 5-15).

With regards to claim 2, the prior art teaches the enhancement means comprising:

an image processor which generates a brightness histogram of pixels within the region of interest (col. 3, line 66 to col. 4, line 4);

an automatic exposure controller which, in response to the brightness histogram, adjusts at least one of the voltage and current of the x-ray source (col. 1, lines 26-29); and

an automatic brightness controller which, in response to the brightness histogram, generates a lookup table for mapping pixels generated by the fluoroscopic imaging apparatus to a display scale for displaying the pixels on the monitor (col. 4, lines 6-10).

With regards to claim 3, the prior art suggests the claimed subject matter thereof (col. 2, lines 57-67).

With regard to claims 5, 7, and 8, the prior art suggests the claimed subject matter thereof (col. 3, lines 21-38).

With regards to claim 9, the prior art teaches a fluoroscopic imaging apparatus (col. 1, lines 12-15) comprising:

an x-ray source for projecting x-rays through a subject, the x-ray source having a voltage and a current associated therewith (col. 1, lines 26-30);

an x-ray detector for detecting radiation which has passed through the subject (col. 1, lines 61-63);

display means for displaying real-time video images indicative of the detected radiation on a monitor (col. 1, lines 22-26);

a pointing device by which an operator can select a region of interest from within the video images (col. 3, lines 21-38);

an image processor for generating a histogram of image data of the region of interest (col. 3, line 66 to col. 4, line 4);

an automatic exposure controller for controlling at least one of the x-ray source voltage and the x-ray source current in response to the histogram of the region of interest (col. 1, lines 26-29); and

an automatic brightness controller for mapping the image data of the region of interest to a display scale of the monitor in response to the histogram of the region of interest (col. 4, lines 6-10).

With regards to claim 10, the prior art teaches the claimed subject matter thereof (col. 3, lines 66+).

With regards to claim 11, the prior art suggests the claimed subject matter thereof (col. 3, lines 21-38).

With regards to claim 13, the prior art suggests the claimed subject matter thereof (col. 2, lines 57-67).

With regards to claim 14, the prior art teaches a method of fluoroscopic imaging (col. 1, lines 12-15) comprising the steps of:

projecting x-rays through a subject using an x-ray source, the x-ray source having a voltage and a current associated therewith (col. 1, lines 26-30);

detecting radiation which has passed through the subject (col. 1, lines 61-63);

displaying on a monitor an image indicative of the received radiation, the image defining a field of view (col. 1, lines 22-26);

displaying borders of a region of interest, the region of interest being within the field of view and being defined by an operator and having a brightness and contrast associated therewith (col. 3, lines 21-38);

generating a brightness histogram of the image data within the region of interest (col. 3, line 66 to col. 4, line 4);

adjusting at least one of the x-ray source voltage and the x-ray source current in response to the brightness histogram of the region of interest whereby the display of the region of interest is thereafter enhanced; (col. 1, lines 26-29); and

adjusting at least one of the brightness and contrast of the region of interest in response to the histogram of the region of interest whereby the display of the region of interest is thereafter enhanced (col. 4, lines 6-10).

With regards to claim 15, the prior art teaches the claimed subject matter thereof (col. 3, lines 66+).

With regards to claim 17, the prior art teaches the claimed subject matter thereof (col. 3, lines 21-38).

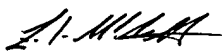
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Allowable Subject Matter

Claims 4, 6, 12, and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

CONCLUSION

Any inquiry concerning this communication should be directed to Eric S. McCall at telephone number (703) 308-6968.


Eric S. McCall
Primary Examiner
Art Unit 2855
July 21, 2003